RB22
University of Maryland, College Park
University System of Maryland

Capital Budget Summary

Summary of State-owned Projects Funded in Governor's Request
($ in Millions)

Project Title	*Prior Approp.*	*FY 2014 Request*	*Future Estimated*	*Estimated Total*	*DLS FY 2014 Recommd.*
Physical Sciences Complex – Phase I	$121.174	$5.300	$0.000	$126.474	$5.300
Edward St. John Learning and Teaching Center	2.050	3.420	50.850	56.320	3.420
Remote Library Storage Facility	0.435	6.107	0.0	6.542	6.107
Campuswide Building System and Infrastructure Improvements	15.000	10.000	110.000	135.000	10.000
H. J. Patterson Hall – Wing 1 Renovation	0.000	0.878	11.450	12.328	0.878
Total	**$138.659**	**$25.705**	**$172.300**	**$336.664**	**$25.705**

Fund Source	*Prior Approp.*	*FY 2014 Request*	*Future Estimated*	*Estimated Total*	*DLS FY 2014 Recommd.*
GO Bonds	$122.853	$20.705	$107.300	$250.858	$20.705
Revenue Bonds	5.000	5.000	55.000	65.000	5.000
Nonbudgeted Funds	10.806	0.000	10.000	20.806	0.000
Total	**$138.659**	**$25.705**	**$172.300**	**$336.664**	**$25.705**

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Summary of Recommended Bond Actions

1. Remote Library Storage Facility

   Approve.

2. Physical Sciences Complex – Phase I

   Approve.

3. Campuswide Building System and Infrastructure Improvements

   Approve.

4. Edward St. John Learning and Teaching Center

   Approve.

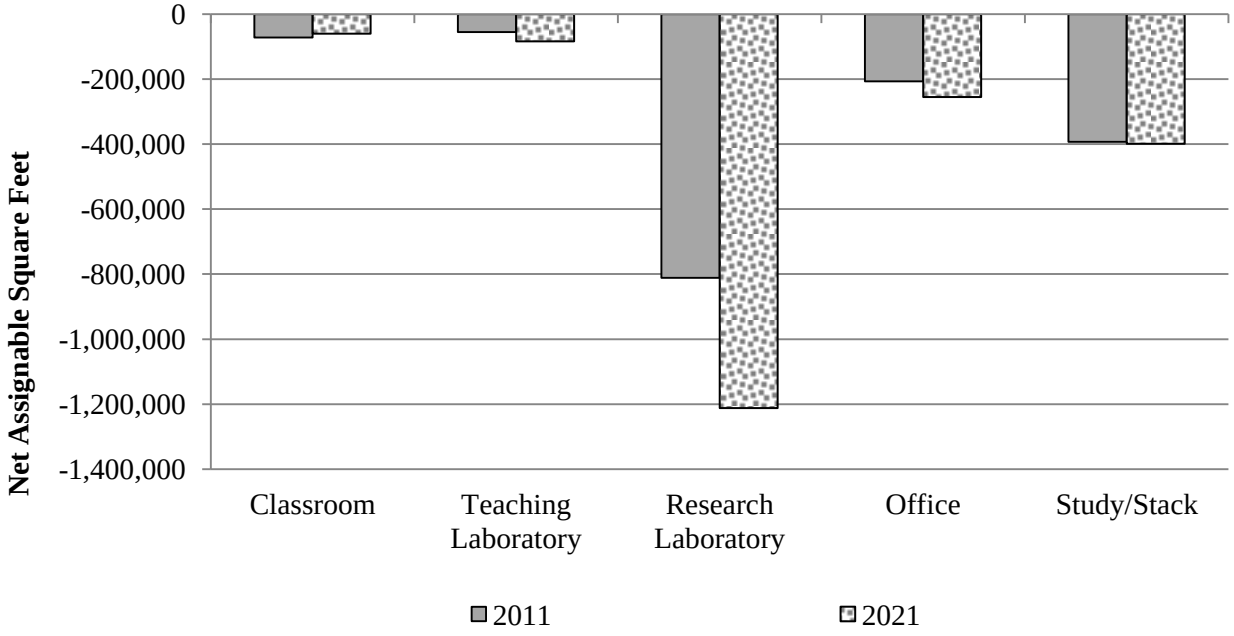
5. H. J. Patterson Hall – Wing I Renovation

   Approve.

Agency Performance Measures and Outputs/Population Data

The University of Maryland, College Park (UMCP) has an overall classroom and teaching laboratory space deficit of 126,930 net assignable square feet (NASF) as of fall 2011, as shown in **Exhibit 1**. According to the Maryland Higher Education Commission (MHEC), the classroom deficit will somewhat ease by fiscal 2021, decreasing 12,270 NASF. However, UMCP will still have a net deficit of 54,364 NASF, which is based on MHEC's projection of an 11%, or 2,948 students, enrollment growth in full-time day equivalent students. Additionally, it is estimated that UMCP's research space deficit will worsen to 1.2 million NASF by fiscal 2021.

Exhibit 1
Academic Space Deficiency
Fall 2011 and Projected Fiscal 2021



Source: Maryland Higher Education Commission, Four-year Public Colleges and Universities Academic Space Surplus/Deficiency, Fall 2011, Projected Fiscal 2021

Capital Improvement Program

State-owned Capital Improvement Program
($ in Millions)

Projects	*Prior Auth.*	*2014 Request*	*2015 Est.*	*2016 Est.*	*2017 Est.*	*2018 Est.*	*Beyond CIP*
Physical Sciences Complex – Phase I	$121.174	$5.300	$0.000	$0.000	$0.000	$0.000	$0.000
Edward St. John Learning and Teaching Center	2.050	3.420	25.300	25.550	0.000	0.000	0.000
Remote Library Storage Facility	0.435	6.107	0.000	0.000	0.000	0.000	0.000
Campuswide Building System and Infrastructure Improvements	15.000	10.000	10.000	10.000	10.000	10.000	70.000
H. J. Patterson Hall – Wing 1 Renovation	0.000	0.878	11.450	0.000	0.000	0.000	0.000
New Bioengineering Building	5.000	0.000	4.950	52.650	66.900	0.000	0.000
Chemistry Building Renovations	0.000	0.000	0.000	1.850	2.200	20.750	55.400
Toll Physics Building South Wing Renovation	0.000	0.000	0.000	0.000	0.000	1.650	49.050
Total	**$143.659**	**$25.705**	**$51.700**	**$90.050**	**$79.100**	**$32.400**	**$174.450**

Fund Source	*Prior Auth.*	*2014 Request*	*2015 Est.*	*2016 Est.*	*2017 Est.*	*2018 Est.*	*Beyond CIP*
GO Bonds	$127.853	$20.705	$41.700	$70.050	$64.100	$17.400	$139.450
Revenue Bonds	5.000	5.000	5.000	5.000	5.000	15.000	35.000
Nonbudgeted Funds	10.806	0.000	5.000	15.000	10.000	0.000	0.000
Total	**$143.659**	**$25.705**	**$51.700**	**$90.050**	**$79.100**	**$32.400**	**$174.450**

Budget Overview

Physical Sciences Complex – Phase I

This is the last year of funding for Phase I of the Physical Sciences Complex with $5.3 million provided to finish equipping the facility. The $126.5 million facility, which leveraged $10.8 million in federal funds, is scheduled for occupancy in October 2013 and will provide 161 laboratories and office space for the Departments of Physics and Astronomy and the Institute for Physical Sciences and Technology.

Edward St. John Learning and Teaching Center

The Edward St. John Learning and Teaching Center is solely dedicated to providing technologically advanced classroom space, replacing eight large obsolete lecture halls that are located in several buildings. The fiscal 2014 allowance includes $3.4 million to complete the design of the center. The design cost increases $1.1 million from the 2012 *Capital Improvement Program* (CIP) from $5.5 million to $6.6 million, resulting in the design comprising 13.7% of the cost of the project. This is due to the technical nature of the project, which requires more than the typical number of consultants, including audiovisual, acoustical, and historical consultants. The initial cost for design service was $8.0 million; however, this was negotiated to $6.6 million. The estimated construction cost totals $48.3 million, which is leveraged with a $10.0 million donation, and is split funded over fiscal 2015 and 2016. This project also includes the demolition of Shriver Hall and a portion of Holzapfel Hall, construction of a satellite central utilities building, extension of utilities, and related site improvements. The total cost of the project is estimated to be $56.3 million.

The center will address UMCP's insufficient and poorly configured lecture hall space which cannot accommodate technologies used in today's classrooms. In the currently used lecture halls, sight lines are blocked by support columns causing blind spots. This in combination with low ceilings prevents the installation of audiovisual equipment, requiring faculty to post information in multiple locations to ensure all students can view the material. Since many of the classrooms were constructed prior to the integration of technology into the buildings, rooms cannot support the use of computers, teleconferencing, or video equipment. For instance, in Reckord Armory, faculty use chalkboards and overhead projectors to present materials and cannot incorporate computer-based teaching methods or problem-based learning into the classroom that can engage students and lead to greater comprehension of the material.

The center will not only address UMCP's classroom deficit by providing 36,600 NASF of classroom space, thereby reducing the net space by approximately 18,000 NASF, but it will also alleviate a shortage of mid- and large-sized classrooms that can accommodate 50 to 500 students. For fall 2010, the room utilization rate was 70% for classrooms with 50 to 70 seats; 73% for rooms with 150 to 200 seats; and 81% for rooms with 300 to 500 seats. The rate indicates the percentage of time a room is being used between 8:00 a.m. and 5:00 p.m. during the weekdays. The recommended rate for any size classroom is 67%. The higher the percentage, the harder it is to offer classes at convenient times, relocate classes during emergencies, or hold events, such as guest lecturers or

conferences. Current utilization rates of large classrooms provide little to no flexibility in scheduling, leading to the cancellation of classes due to the lack of usable space. The center will not have a classroom under 50 seats and will include four classrooms with 300 to 500 seats, one 150-seat lecture hall, and six classrooms with 50 to 75 seats.

Currently five international programs are housed in Holzapfel Hall and will eventually be relocated to the renovated wing 1 of H. J. Patterson Hall, which is included in the 2013 CIP and will be further discussed. During the renovation of H. J. Patterson, these programs will be temporarily relocated to surge space in Susquehanna Hall. The 506-seat lecture hall in Tydings Hall will be converted into smaller lecture halls, and the remaining halls will be repurposed to meet other university needs, such as administrative and support space.

Remote Library Storage Facility

The proposed budget accelerates construction funding for the remote library storage facility from fiscal 2015 to 2014, based on the construction readiness of the project schedule and additional available debt capacity. This project will renovate a portion of the Severn Building, formerly the *Washington Post* printing facility, to create a 19,740 NASF/22,080 gross square feet remote library storage facility. The Severn Building is a cost-effective location to create this facility due to its high ceilings; heavy load bearing floor; and robust heating, ventilation, and air conditioning (HVAC) system which is a requirement for this facility. The main storage bay will be maintained at the paper preservation standard of 50 degrees Fahrenheit with 30% humidity while the cold storage areas will be at a constant 30 degrees Fahrenheit.

The 2013 capital budget bill includes language restricting the expenditures of funds for this project until UMCP submits a report to the Department of Budget and Management (DBM) exploring the options for the joint use of the facility with the Maryland State Archives (MSA). The report is to include the feasibility and costs of various permanent and temporary scenarios to help with the storage needs of both MSA and UMCP.

Currently, MSA will reach 100% of its archival storage capacity within fiscal 2013 and does not have a plan for the storage of records that cannot be held at the main MSA facility or at one of its auxiliary sites. Shelving has been added on top of the existing shelving at the Baltimore City archives to provide some additional space, but this not a long-term solution. The declining storage capacity at MSA has been of concern, with the 2011 *Joint Chairmen's Report* requiring MSA and DBM to submit a report on alternative storage options, which include several options to build or lease a new facility with costs ranging from $18.7 million to $33.0 million. During the 2012 regular session, the budget committees required MSA to submit a report on the short- and long-term plans for addressing the shortfall in its storage capacity. MSA proposed purchasing an existing warehouse facility in Baltimore that could be retrofitted to be used as a storage facility for a total estimated cost, including renovation, of $25.3 million. MSA has not been able to identify other State facilities to be used for short-term record storage and prefers to accelerate the lease\purchase agreement.

The Severn remote storage facility will not only help UMCP alleviate its storage problem but also that of other University System of Maryland (USM) institutions who will be allowed to store material at the facility for a nominal fee to cover operating expenses. The total stack deficit for all USM institutions totals 235,373 NASF; however, it is most prominent at UMCP, which as of fall 2011, had a deficit of 139,888 NASF. UMCP is holding 1.1 million volumes over the recommended maximum capacity, and all USM institutions are holding a total of 1.3 million over the recommended maximum. As part of its research mission, UMCP adds approximately 75,000 to 100,000 volumes annually to its collection, which when coupled with a growing need to convert stack to study space further exacerbates the space deficit situation. UMCP has been renting space at an annual cost of $230,000 at The John's Hopkins University (JHU) Remote Library Storage Facility located in Laurel, Maryland. Currently, over 500,000 volumes are housed at this facility. In fiscal 2010, JHU stopped allowing UMCP to store additional volumes at its facility, thereby putting UMCP in the position that for each new volume acquired, it had to discard a rarely used volume.

The facility will reduce UMCP's stack space deficit with the construction of 14,600 NASF of book storage area, 5,140 NASF of library processing space, and 500 NASF of cold storage room to house library films and other delicate media.

Campuswide Building System and Infrastructure Improvements

The fiscal 2014 allowance provides for a third year of funding for campuswide building system and infrastructure improvements. Originally, $5 million was included in the 2012 CIP to fund the project starting in fiscal 2013, but due to the size and scope and regular failure of the underground infrastructure of pipes, wires, and drains, $5 million in general obligation (GO) funds were included in the fiscal 2012 budget. This allowed UMCP to begin addressing the backlog of deferred maintenance, particularly those related to its failing infrastructure. In fiscal 2013, $10 million in funding was provided, equally funded from GO and revenue bonds. This continues into fiscal 2014. The estimated costs for the upgrades and improvements to the infrastructure total $135 million over a 14-year period.

Projects for fiscal 2014 include $4.1 million for five mechanical system upgrades; $3.8 million for eight electrical gear improvements; $1.0 million for seven fire safety projects; $0.5 million to repair a bio-retention pond; and $0.6 million for an elevator repair.

The project addresses the urgent needs arising from $750 million in facilities renewal backlog. Overall, 33%, or 1.8 million NASF of UMCP's State-supported space has not had a major renovation in more than 40 years, of which 15% has not had a major renovation in 50 years. Additionally, there is about $100.0 million of backlog for infrastructure outside the buildings such as underground utilities, roads, and exterior lighting for a total backlog, according to UMCP, of three-quarters of a billion dollars. Funding for facilities renewal over the years has not been sufficient to address the steadily increasing needs of an aging campus with a deteriorating infrastructure. Projects are classified into two categories: infrastructure and building systems. Infrastructure includes work outside of the buildings, such as replacing underground heating, cooling, and water piping; repairing building foundations; and replacing exterior security lighting and cameras. Building system projects

include the installation or upgrade of the life safety system. Current systems compromise the ability of UMCP to ensure the safety of faculty, staff, students, and visitors.

H. J. Patterson Hall – Wing 1 Renovation

This project was added to the fiscal 2014 capital budget to provide space for those programs that will be displaced due to the construction of the Edward St. John Learning and Teaching Center. The fiscal 2014 allowance provides $0.9 million to design the project, and the 2013 CIP programs $11.5 million to construct and equip the renovated facility in fiscal 2015. The project will renovate the second, third, and fourth floors of wing 1 of H. J. Patterson Hall at an estimated cost of $12.3 million and will create 17,135 NASF of offices for eight international programs.

The eight international programs that will be housed in H. J. Patterson are located in separated locations preventing collaboration among the programs and hindering the ability of UMCP to develop cross-culture opportunities for the students. Five of the programs are currently assigned 12,800 NASF in Holzapfel Hall and will need to be relocated due to the construction of the Learning and Teaching Center. Three other smaller units currently located in Taliaferro Hall will also be moved to H. J. Patterson with the vacated space to be used to meet other space needs of the university.

Wing 1, which has never been significantly updated, was constructed in 1937 and originally housed research and teaching laboratories for the life sciences program. The wing has largely been vacant since the previous occupants relocated to the Bioscience Research Building in 2007. Due to the structural constraints of the building, which do not allow for cost-effective installation of the infrastructure needed to support modern laboratories, the facility cannot be used for research. Furthermore, the building systems are outdated, resulting in increasing maintenance costs despite the wing being vacant. For instance, failing plumbing has caused frequent flooding and leaks, the electrical system is outdated, the breaker and subpanels are overloaded, and there is insufficient capacity to expand, resulting in offices not being able to support multiple computers. Additionally, the wing lacks fire sprinklers, the fire alarm system is not compliant with the Americans with Disabilities Act (ADA), and the exterior wood portico and windows are rotting and need to be replaced.

The ground and first floor of wing 1 are currently occupied by units in the College of Agriculture and Natural Resources. As space opportunities arise in the future, UMCP will relocate these units elsewhere and renovate these floors to house other international programs.

Operating Budget Impact Statement

Executive's Operating Budget Impact Statement
($ in Millions)

	FY 2014	*FY 2015*	*FY 2016*	*FY 2017*	*FY 2018*
Edward St. John Learning and Teaching Center					
Estimated Operating Cost	$0.000	$0.000	$0.573	$2.517	$2.554
Estimated Staffing	0	0	1	13	13
H. J. Patterson Wing 1 Renovation					
Estimated Operating Cost	0.000	0.000	0.590	0.000	0.000
Estimated Staffing	0	0	0	0	0
Total Operating Impact					
Estimated Operating Cost	**$0.000**	**$0.000**	**$1.163**	**$2.517**	**$2.554**
Estimated Staffing	**0**	**0**	**1**	**13**	**13**

Summary of Other Projects in the Capital Improvement Program

New Bioengineering Building

Language was included in the 2012 capital budget bill providing $5.0 million to begin the design of the new bioengineering building. The facility will house the Robert E. Fischell Department of Bioengineering and Institute for Biomedical Devices providing needed space allowing for the continued expansion and growth of the Department of Bioengineering. The facility will provide research and instructional laboratories, classrooms, and offices addressing UMCP's space deficits in these areas. The 2013 CIP programs $4.9 million in fiscal 2015 to complete planning and split funds construction between fiscal 2016 and 2017. Construction is estimated to cost $101.0 million which is leveraged with $20.0 million in private donations. Funding for this project was not programmed in the 2012 CIP but has been added to the 2013 five-year capital plan based on the availability of additional debt authorizations. The Capital Debt Affordability Committee (CDAC) recommended $750.0 million of additional new GO bond authorizations in the five-year plan relative to the 2012 session limits. The 2013 CIP programs $150.0 million of increased authorization in each of fiscal 2014-2018, consistent with the CDAC recommendation. The UMCP new bioengineering building would likely not be programmed for funding in the five-year plan were it not for the additional authorizations.

Toll Physics Building South Wing Renovation

The relocation of occupants in the Toll Physics building to the Physical Sciences Complex provides an opportunity for UMCP to renovate the south wing of the building. The facility, built in 1950, is in poor condition with an obsolete electrical system and is unable to support the requirements and needs of researchers and faculty. The HVAC, electrical, and telecommunications systems do not meet modern standards for teaching and research. The piping frequently fails resulting in flooding, and the electrical circuits are overloaded. The facility will be renovated to create offices and instructional and research space to accommodate the needs of the university. This will allow UMCP to cost effectively cycle programs through the facility based on the changing needs and priorities of the university.

Projects Deferred in Fiscal 2014

Funding for the Chemistry building renovations is deferred from fiscal 2015 to 2016 due to other university budget priorities. A description of the project is shown in **Exhibit 2**. Funding for planning, totaling $4.1 million, is programmed in fiscal 2016 and 2017 with $20.0 million for construction equally funded with GO and revenue bonds, planned in fiscal 2018. The estimated cost of the project totals $80.2 million with the remaining $55.4 million to be programmed in the out-years.

Exhibit 2
Projects Deferred
Fiscal 2014

Project	Description	Reason for Deferral
Chemistry Building Renovations	Renovate wings 1 and 2 to correct deficiencies related to the age of the facilities which have remain largely unchanged since original construction in 1952 (wing 2) and 1968 (wing 1)	Other university budget priorities

Source: Department of Budget and Management, Fiscal 2014 *Capital Improvement Program*

GO Bond Recommended Actions

1. Approve $6.1 million in general obligation bond funding to construct and equip the Remote Library Storage Facility.

2. Approve $5.3 million in general obligation bond funding to complete equipping Phase I of the Physical Sciences Complex.

3. Approve $10 million ($5 million general obligation and $5 million revenue bonds) to continue funding for Campuswide Building System and Infrastructure Improvements.

4. Approve $3.4 million in general obligation bond funding to complete the design of the Edward St. John Learning and Teaching Center.

5. Approve $0.9 million in general obligation bond funding to support the design for the renovation of wing 1 of H. J. Patterson Hall.